CLAIMS

1) A method of reducing resonance phenomena in a transmission train (6) of a vehicle internal combustion engine (2); the internal combustion engine (2) having a number of cylinders (5) normally controlled in a standard control mode to generate a drive torque (T), which has a standard pulsating pattern as a function of the engine angle (α), and has at least one disturbance harmonic component (C_4); the transmission train (6) having an intrinsic resonance mode having a given resonance frequency (Fr); and the method providing for modifying the standard control mode of the cylinders (5) to modify the standard pattern of the drive torque (T) as a function of the engine angle (α), and so modify the distribution of the harmonic components (C) of the drive torque (T) to reduce the amplitude of the disturbance harmonic component (C_4) when the rotation speed (N) of at least part of the transmission train (6) is such that the frequency of the disturbance harmonic component (C_4) of the drive torque (T) lies in the neighbourhood of the resonance frequency (Fr) of the transmission train (6).

2) A method as claimed in Claim 1, wherein the standard control mode of the cylinders (5) is modified by reducing operation of a number of cylinders (5) with respect to the other cylinders (5).

3) A method as claimed in Claim 2, wherein operation of a number of cylinders (5) is reduced by reducing the

corresponding quantity of fuel injected.

4) A method as claimed in Claim 2, wherein operation of a number of cylinders (5) is reduced by modifying the corresponding injection lead.

5) A method as claimed in Claim 2, wherein operation of a number of cylinders (5) is reduced by modifying the corresponding phase of the intake and/or exhaust valves.

6) A method as claimed in Claim 2, wherein operation of a number of cylinders (5) is reduced by modifying the opening of the corresponding butterfly valve.

7) A method as claimed in Claim 2, wherein the cylinders (5) of the engine (2) are divided into two rows (4) arranged in a "V"; the standard control mode of the cylinders (5) being modified by reducing operation of the cylinders (5) in one row (4) with respect to the cylinders (5) in the other row (4).

8) A method as claimed in Claim 7, wherein operation of the cylinders (5) in one row (4) is reduced 50% with respect to the cylinders (5) in the other row (4).

9) A method as claimed in Claim 1, wherein the standard control mode of the cylinders (5) is modified when the rotation speed (N) of at least part of the transmission train (6) is such that the frequency of the disturbance harmonic component (C_4) of the drive torque (T) lies in the neighbourhood of the resonance frequency (Fr) of the transmission train (6); the neighbourhood being centred at the resonance frequency (Fr), and having an amplitude ranging between 4 and 16 Hz.

10) A method as claimed in Claim 1, wherein the standard control mode of the cylinders (5) is modified when the rotation speed (N) of at least part of the transmission train (6) is such that the frequency of the disturbance harmonic component (C_4) of the drive torque (T) lies in the neighbourhood of the resonance frequency (Fr) of the transmission train (6); the neighbourhood being centred at the resonance frequency (Fr), and having an amplitude ranging between 4 and 8 Hz.